

Community Assistantship Program

**Models and Strategies for a Produce
Distribution Plan**

Prepared in partnership with
Minnesota Food Association

Prepared by
Nicole Yarbrough
Research Assistant
University of Minnesota
May, 2007

CAP Report 116

May 2007

CAP is a cross-college, cross-campus University of Minnesota initiative coordinated by the Center for Urban and Regional Affairs.

Funds for this project were generously provided by CURA.

This is a publication of the Center for Urban and Regional Affairs (CURA), an all-University applied research and technology center at the University of Minnesota that connects faculty and students with community organizations and public institutions working on significant public policy issues in Minnesota. The content of this report is the responsibility of the author and is not necessarily endorsed by CAP, CURA or the University of Minnesota.

© 2007 by The Regents of the University of Minnesota. This publication may be reproduced in its entirety (except photographs or other materials reprinted here with permission from other sources) in print or electronic form, for noncommercial educational and nonprofit use only, provided that two copies of the resulting publication are sent to the CURA editor at the address below and that the following acknowledgment is included: "Reprinted with permission of the University of Minnesota's Center for Urban and Regional Affairs (CURA)." For information regarding commercial reprints or reproduction of portions of this publication, contact the CURA editor at the address below.

This publication may be available in alternate formats upon request.

Center for Urban and Regional Affairs (CURA)
University of Minnesota
330 HHH Center
301--19th Avenue South
Minneapolis, Minnesota 55455
Phone: (612) 625-1551
Fax: (612) 626-0273
E-mail: cura@umn.edu
Web site: <http://www.cura.umn.edu>

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

Models and Strategies for a Produce Distribution Plan



A report prepared by:

Nicole Yarbrough
June 2006

Table of Contents

Introduction.....	3
The Growers.....	4
Finding the Right Market	5
<i>Restaurants</i>	<i>5</i>
<i>Grocers</i>	<i>6</i>
<i>School Lunch Programs.....</i>	<i>7</i>
<i>Food Advocacy Organizations.....</i>	<i>8</i>
<i>Competition.....</i>	<i>9</i>
Meeting Market Standards	9
<i>Pricing.....</i>	<i>9</i>
<i>Produce Quality Standards.....</i>	<i>10</i>
<i>Tracking/Traceability</i>	<i>10</i>
<i>Certification/Label.....</i>	<i>10</i>
<i>Contracts.....</i>	<i>11</i>
<i>Licenses.....</i>	<i>11</i>
Infrastructure.....	11
<i>Storage</i>	<i>11</i>
<i>Processing.....</i>	<i>11</i>
<i>Logistics</i>	<i>12</i>
<i>Transportation and Delivery.....</i>	<i>12</i>
Marketing Plan	13
<i>Wholesaler</i>	<i>13</i>
<i>Distributors.....</i>	<i>13</i>
<i>Broker</i>	<i>14</i>
<i>Collaborative</i>	<i>15</i>
Recommendations and Conclusion	16
Appendices.....	17
<i>Case Studies.....</i>	<i>17</i>
<i>Interview Matrix.....</i>	<i>19</i>
<i>Bibliography</i>	<i>22</i>

Introduction

For over seven years, Minnesota Food Association (MFA) has worked with immigrant communities, with an especial focus on those groups with traditionally strong ties to agriculture, to develop economic opportunities in farming. Through the “New Immigrant Agriculture Project,” MFA has partnered with farmers according to their needs: presently, a reliable customer for specific produce. This challenge is especially complex given the growers’ seasonal mix of fresh produce.

Growers and consumers in the Upper Midwest, already a powerhouse in global agricultural output, would greatly benefit from increased diversification, integration, and development of local food production and distribution networks. MFA, with its locally sourced supply, should have comparative advantage in the market over produce shipped in from elsewhere. MFA can move produce easily from farm to market with a minimum in transportation costs and spoilage. Additionally, MFA can meet the significant demand for sustainable, locally grown products, which has greatly increased in recent years. The growth of farmers markets in the US, which has more than doubled in the last ten years, proxies this trend.¹ This shift in consumer taste is spilling over into mainstream retailers, with Cub Foods for example promoting local produce through their “MN Proud” initiative. The emerging immigrant farming community is well poised to meet this concurrent upward trending demand for local produce.

There has also been upward movement within the organic foods sector. Industry analysts have found strong growth over the last ten years and forecast growth to continue in the future. “Organic crops can fetch a price premium of anywhere from 25 percent to 200 percent or more over conventionally grown products,” according to USDA’s Economic Research Service. The top sales of organic foods are fresh fruits and vegetables (Dimitri, Carolyn and Greene, Catherine 2002). According to the USDA, US certified organic cropland is mainly in Northeast, Upper Midwest and Western US. Organic products are increasingly found in mainstream retail outlets. Even large retailers such as Wal-mart and Supervalu Foods are introducing natural and organic products in their stores. The USDA organic seal allows consumers to easily identify products that meet well-defined standards. Many of these consumers perceive organic produce to be healthier and environmentally safe.

Small growers, in particular struggle to access the retail market alongside large distributors. These distributors are able to undercut prices offered to small growers while providing a larger variety of produce, with suppliers in places such as California and Florida, where growing seasons are longer and the climate more favorable. However, the more salient barrier relates to transportation logistics and volume of locally grown produce. Some of these barriers are being overcome by Community Supported

¹ <http://www.ams.usda.gov/farmersmarkets/FarmersMarketGrowth.htm>

Agriculture (CSA) programs, farmers markets, and pooling together resources under cooperatives or collaboratives.

Marketing and relationship building in food distribution chains can increase consumer and retailer awareness of local products. For example, health and community conscious buyers increasingly identify positive growing practices through certification and branding. Balancing these considerations, MFA can choose a plan of action to meet high demands for fresh produce. The plan outlined below will discuss the possibilities of several marketing strategies and models.

The Growers

Minnesota has the fastest growing population in the Midwest and has become more racially and ethnically diverse between 1990 and 2000. The state also has the largest Hmong community in the US and growing East African and Latino populations. In a typical pattern, new immigrants see opportunities in farming and rent land to grow produce until enough sales help them purchase their own land. USDA statistics show that there has been a growth of 87.3% of Latino principal operators in Minnesota between the years of 1997 and 2002. Asian principal operators have also increased by 2.2%.² As companies in the food industry overtake large farms, more opportunities are available for new immigrant farmers to build farms. There are many organizations and individuals like Gregg Bongard³ to assist immigrants find the resources to begin farming.

In an effort to reach out to Minnesota's growing immigrant population, Minnesota Food Association has developed the "New Immigrant Agriculture Project." MFA has trained and educated over 250 Latino, Southeast Asian and African immigrants since it was formed in 1998. For many immigrants, farming is a source of income and independence. By linking new immigrants to farming opportunities, MFA can guide farmers to own land and gain access to financial credit. The new project can be used to build networks between the immigrant farmers in the Midwest and move produce to businesses in related communities like the District del Sol in St. Paul, Eat Street on Nicollet Ave, or the sprawling Asian community in Frogtown.

MFA has committed the time and resources to the long-term growth of the rural farming community. The organization positioned more than three-dozen farms into a Community Supported Agricultural (CSA) program to increase produce sales. In a CSA program, farmers grow products for buyers that commit to purchasing a part of the farm's crop. In return, the buyers receive a scheduled delivery of fresh produce for the season. There has been a steady growth of CSA programs in the US, including Minnesota. In addition to the CSA program, MFA has helped farmers increase sales in the farmer's markets around Washington County. Many immigrants sell their produce in the farmer's markets around the metro area. However, MFA would like to facilitate additional opportunities outside of the farmer's markets.

² http://www.nass.usda.gov/Census_of_Agriculture/FINAL_Counting_Diversity_in_American_Ag.pdf

³ Gregg Bongard was formally loan manager for FSA who issued the first FSA loan to Hmong borrowers

The opportunities for growth for many of these growers have not been realized. Although most of them operate their businesses through the local farmers markets, there is still not a move towards diversifying their income source and marketing opportunities. The growth in number of farmer's market across the country has added to more selling opportunities, but these markets are usually only operating in the summer months. In the past, Hmong growers have operated on contract basis with pickle, ginseng and tomato/ketchup growers, but these business ventures led to a lack of trust to "corporate" farming opportunities because of the lack of trust and inability to be sustainable through these means.

Growers that were interviewed for this research did demonstrate interest in participating in this type of working relationship. Their suggestions for operating a successful food brokering service within the Hmong community included:

- Trustworthy staff
- Steady relationships between brokering service staff and growers
- Steady relationships between brokering service staff and their vendors
- Assistance with language barriers
- Fair rates for the growers equivalent to market demand price

Finding the Right Market

There are ample opportunities to move local produce between the grower and the end-user. The retail markets have been identified to gauge the possibilities of a buyer and supplier relationship. A diverse selection of local grocers and restaurants has been chosen for research. Research has been conducted by interviews with various individuals within the market setting. Another consideration is the school food programs and summer camps. Lastly, MFA can form alliances with wholesalers and food advocacy programs.

Restaurants

The communities in Minnesota contain many independent ethnic restaurants owned and managed by members of diverse populations. The chefs and managers working in these restaurants were willing to share their ordering process about the items used in their menus. The buyer preferences of these restaurants show how transactions between the seller and the buyer work. There are several generalizations concerning sources of produce for the several restaurants interviewed in the study.

- The chef mainly manages the food ordering process and developing menus. The process determines salary.
- Most buy produce from several sources using vendors, wholesalers, and distributors. Some produce is local or from California. However, limited availability of local ethnic vegetables and fruits increases dependence on distributors like Sysco/Asian Foods.
- Most chefs research vendors unless approached by them.
- Some vendors send booklets describing several characteristics: quality, quantity, and price. Other factors affecting produce conditions are listed such

as climate conditions and availability of seasonal items. Pictures are also included.

- Each vendor has different product, pricing, and availability.
- Some chefs prefer personal contact with sellers because prices are negotiable.
- Chefs create seasonal menus due to availability of produce to offset costs of more expensive goods.
- Produce is ordered in high volumes. Most orders are made twice to three times a week.
- The closeness of other businesses carrying same produce can be another source.
- Most vendors deliver product by transportation in line with state regulations, which is important for food safety and quality of produce.

There are several marketing strategies for growers to supply restaurants with local produce:

- Locally grown produce is fresher
- Different grades of produce can be used to process for soups, sauces, etc.
- Using locally grown produce will attract customers
- Direct contact will increase trust and reliability
- Chefs use varieties and mixes of produce in their menus
- Produce is minimally processed

There are also some limitations to the seller-buyer relationship:

- Growers can only supply produce during summer growing season
- Some restaurants have been using same grower for many years and it may be difficult to negotiate a sale
- The price of sustainable, local produce may be higher than what the chef is used to paying
- There are language difficulties and low levels of trust among managers in ethnic restaurants

Grocers

A variety of grocers were identified in this study. The grocers have different requirements than restaurants. Large, national suppliers, standardization and uniformity, consumer preferences, and contracts heavily regulate these markets. Each of these features will be explained in further detail later in this report.

- Most produce departments have a single manager to handle ordering and purchasing
- Natural food stores and coops purchase most products through wholesalers and unique business relationships. Instead of using conventional goods, all products are certified organic. Most coops are managed by its shareholders and voted on board of directors to promote certain values and goals.
- Large grocers have contracts with various produce vendors in the market for specific commodities. These contracts are with companies like dole salad or

delmonte apples. Most contracts are annual and then prices are renegotiated. The produce department monitor and recognize a variety of produce they have good success with the commodity. Produce managers tend to maintain contracts based on experience with the shipper.

- Buyers from supermarket chains like Roundy's usually buy at least some produce from a corporate warehouse.
- Grocers maintain relationships with several suppliers. These suppliers work with various vendors such as Supervalu. During the summer, grocers sometimes order from local suppliers. These products usually carry logos from certification processes or tags to guarantee the locality of the product.
- Most ethnic grocers have relied on same suppliers for years because of availability of specific varieties of produce.

There are several advantages to selling produce to grocers:

- Produce managers regularly renegotiate contracts
- High volumes of produce are moved more quickly
- High demand for certain varieties and local produce

There are also several factors to consider when selling produce to grocers:

- Produce may have to be packaged
- Standardization of product is important
- Box labeling and shipping information
- Requirements for large quantities of produce may be hard to meet
- There are language difficulties and low levels of trust among managers in ethnic restaurants

School Lunch Programs

There are a number of school districts in Minnesota that are currently using or discussing the possibilities of using local produce in their lunch programs during the school year. The relationship building process begins through negotiations with school districts and partnerships with other large produce distributors. In addition to school lunch programs, analysts can foresee feasibility in using local commodities in summer school programs. Listed below are the features of the seller-buyer relationship:

- School districts receive reimbursements from federal and state funded programs for food programs. The United States Department of Agriculture (USDA) provides school districts with many resources, however requires schools to act within set guidelines.
- Large distributors like Sodexo supply large quantities of produce to schools.
- Then these distributors are able to supply products that are whole or raw, sliced, packaged, and further processed.
- Institutions require large quantities of produce that may be hard to meet for a small distributor.

There are reasons to supply local produce to schools:

- Distributors rarely supply local commodities
- Schools are very interested in purchasing local produce and using it as an education tool for students
- Distributors use an internal system as a search engine to locate producers with the capacity to fill orders for the day
- School districts are building relations with Food Alliance and may also add “Minnesota Grown” products in the following school years

There are several challenges to supplying produce to different schools:

- It appears the largest barriers are lack of communication, infrastructure, time required connecting with farmers, handling unprocessed food, and traceability of produce shipments.
- High levels of unawareness and inexperience ordering homegrown products used in lunch programs
- Greater use of local foods would be guided by if they could purchase it further processed rather than whole by the case.
- School food directors mainly use processed foods such as pre-sliced carrots and coleslaw to cut down time on labor-intensive foods.
- Variety of produce is seasonally limited

Food Advocacy Organizations

Food advocacy organizations are citizens and government leaders working together to examine local food systems and using resources to improve them. Local food advocacy programs have committed to numerous activities inside communities to provide adequate access to fresh food products. Both are in the beginning stages of building programs to promote and move local products into various businesses and under-served communities. These organizations can see a potential relationship with Minnesota Food Association because they share the same missions and goals.

- Goals to develop a space to sell fresh produce inside communities by next year’s growing season
- One organization runs a food program during the summer using USDA products. The director mentioned USDA uses a voucher program so the organization does receive reimbursements. But USDA exchange sites are tedious and she would prefer drop off sites.
- The organization would like to work on having direct contact with farming communities and engaging them in project activities
- Accreditation of businesses using local products that also requires stronger commitment

The formation of a relationship with these other non-profits can benefit growers with MFA in the following ways:

- Available supplies of seasonal produce can be used for summer programs
- MFA can work within existing networks set up by these organizations

- Decreases dependence on USDA programs allowing a shift to purchase more local produce

The disadvantage to the relationship would be:

- Other suppliers in existing networks may have filled market shares

Competition

These brokers, organizations and distributors in Minnesota are MFA's market competitors:

- Bix Produce – The distributor supplies produce to buyers in the Twin Cities, greater Minnesota, and Western Wisconsin. Also locate and deliver local produce mostly certified by Food Alliance for buyers.
- Asian Foods – The largest Asian food restaurant supplier in the nation. It is a major supplier of Asian produce for most of the restaurants in the study. A portion of the company was recently bought by SYSCO.
- Sodexo – National facilities and management services company. Provide food services for institutions like schools, hospitals, the corporate, or the government.
- Roots and Fruits – The region's oldest wholesale distributor of natural and organic food products. Supply hotels, restaurants, coffee houses, delis, and both natural foods and mainstream grocery stores. Also formed a partnership with Food Alliance.
- H. Brooks and Company – National and global distributor supplying raw, processed, and both organic and conventional produce to wholesalers, grocery stores, and institutions.
- Heartland Food Network – The Heartland Food Network is a newer network of organizations that emphasize the purchase of local, organic or sustainable food by restaurant chefs in Minnesota.

Meeting Market Standards

Pricing

Produce prices are highly variable. The prices paid for produce are affected by climate conditions, volume, varieties, and market standards. However, prices of various goods are set according to market standards because of high competition. Large competitors in the market exert pressure on produce prices due to supplying larger quantities. Organic produce is usually twice the cost of conventional produce. The price of local produce can also be higher because it is fresher and in high demand. Buyers are very selective in purchasing high volumes of produce because of price sensitivity and shop around to find the best price. They can check the weekly lists supplied by growers and vendors for produce availabilities and pricing. However, in the absence of contracts, buyers are not obligated to purchase produce from their regular sources.

Produce Quality Standards

The Food and Drug Administration (FDA) must approve everything that passes through vendors before it reaches groceries. There are set guidelines of standardization and uniformity for each commodity (i.e. grading). This includes size, type, color, maturity, and standard of produce.⁴ These requirements should be shared with growers so then they only produce and pick that grade. It is important that growers are aware of federal and state standards so they can adapt to these requirements. The grower should be doing as much of the sorting and grading as possible before produce reaches the buyer. If produce volume is small, then the farmer should pick everything and let the buyer take care of it.

**Many of the producers that the Minnesota Food Association is currently working with are already producing vegetables of Grade A quality (the market standard) or better. Maintaining the FDA minimum standards will only be an extension of certification for the producers who are already growing.*

Tracking/Traceability

All food-packaging, pallets, shipping boxes should have an identification number. Most restaurants and grocers would prefer to see any sort of container used for shipping to be marked. This is also important for any state or federal government run facilities such as schools. Growers and shippers are easily identified this way. Buyers that tend to have a lot of vendors can trace any food safety related problems back to the source.

Certification/Label

The purpose of a certification label guarantees certain requirements are met before a product reaches retail. It can be considered as a marketing tool to differentiate products because certification provides credibility to a seller's product. Consumers are able to easily recognize labels to purchase desired products. There are few labels sellers and buyers can use:

- *Minnesota Grown* - A wide consumer base has used it since the 1980s and is widely recognized within MN. There are 850 licensed users that currently use the label. It is for anybody to use such as coops, institutional customers, or Community Supported Agriculture products (CSA). It would be ideal for a supplier to use because of its low criteria level. The label guarantees any agricultural product like produce, flowers, and livestock is raised or grown in Minnesota. The user fee is \$5 and you must register with the state.
- *Food Alliance* – This is a nationwide label. There is a comprehensive set of criteria to obtain the label like site visits to inspect farming inputs, labor costs, and activeness in communities. Fees are based on gross sales of Food Alliance certified products. The certification has increased market shares for buyers that use and promote the label. For example, distributors like Bix Produce, purchase Food Alliance certified produce to resell to businesses that specifically order local produce. Food Alliance shares information with Bix

⁴ Guidelines for produce quality standards can be found at the USDA and AMS website:
<http://www.ams.usda.gov/standards/vegfm.htm>.

Produce about certified farms to help the grower and buyer set up a direct relationship.

- *MFA Label* – MFA can also develop a label for the same reasons.

Contracts

Contracts are mostly verbal but there are instances paper contracts are useful to have documentation of the agreement.

The buyer:

- Produce buyers have different needs. In several interviews, buyers stated the importance to have personal contact with selling agent or grower, so they can personally negotiate terms and contracts. Buyers usually have verbal agreements with suppliers or growers. Sometimes, purchasing contracts are set up with grower to provide local produce when available. However, most buyers want a contract when high volumes of produce are ordered and sold. Even when climate conditions affect produce quality and prices, buyers and growers are obligated to follow stipulations in the contract.

The grower:

- Contracts with growers are usually verbal. However, this arrangement can be problematic due to inconsistent quality of produce, growers not delivering at agreed upon times, unavailability of produce, and insufficient job of grading and sizing produce.

Licenses

Any entity selling and buying food products requires a license that can be obtained from the Minnesota Department of Agriculture. The Minnesota Food Association would need to obtain a Wholesale Produce Dealer license. The license provides financial protection for the producer and the retail merchant purchasing produce directly from farmers. The license also outlines payment guidelines based on terms of

Infrastructure

Storage

After harvesting, post-production care of produce is important because it preserves quality, freshness and will help extend its shelf life. Produce should be stored at right temperatures to properly sell it again. A forced air cooler increases viability of produce. However, cooling produce is not a hard requirement because of fast turnover. There is no point in picking product until orders are set up. It's hard for farmers to accept this but as soon as product is picked, it begins to die. If necessary, a refrigerated trailer should fit storage needs. Produce harvested and sold locally is fresher than produce shipped in from far away.

Processing

A processing and packing shed or warehouse allows distributor to sell value-added produce to buyers. The shed can be leased during off-peak seasons and used to

increase revenues through user fees. Inside the shed or warehouse, an area should be used for handling and cleaning products. Purchasing processing equipment include sinks and cutting machines. USDA food safety requirements set standards for sanitary and cleanliness in these areas. The appearance of these areas should be maintained because sometimes buyers like to purchase produce at a warehouse where varieties of produce can be displayed.

Packing produce adds value and processes because it changes the selling format and the product. These can vary according to the type of produce. The “shipping container plays an important role in marketing, since it must hold and protect the product” (Hanson, James C. 1993-1994). The container and wrapping preserves the freshness, is more appealing to the consumer, and identifies the shipper. In addition, buyers are concerned about the condition of containers. “Wooden crates and burlap bags have largely been replaced by the fiberboard cartons” (Hanson, James C. 1993-1994). Containers and cartons must be able to stand up under shipping and delivery.

Logistics

A centralized system is required to make decisions according to real time information. Specifically, scheduling inventory, purchases, and sales along with maintaining appropriate contact with vendors and customers. In a sale, a purchase order is usually exchanged with items listed such as price per box, pick-up number, and a confirmation number. It is important for the grower or agent to manage these processes efficiently.

Transportation and Delivery

Delivery systems serving regional markets and a variety of customers need to be managed efficiently. Problems encountered in delivery systems have included inability to coordinate delivery times, disorganization of delivery due to the inclusion of too many drop off sites in a region, and poor billing and payment protocols.

Acquiring a truck for transportation and delivery needs depends on the volume of produce moved in regular shipments and how frequently it is driven. There are several options for Minnesota Food Association including buying a new truck. The other options are buying a used truck, renting or leasing. When looking for a used truck, you want less than 500 hours and the size of the truck depends on what capacity is needed to fit pallets. A pallet can hold 700-800 pounds of produce. Then there is a cube truck, which is a regular hydraulic, and dock uses air brakes.

It’s easier to get a class B license so any driver can drive a small delivery truck. Drivers may have to get a DOT physical to drive vehicle. Commercial trucks are built to exceed 500,000 miles, which is not unusual. There might be a need to only lease a truck by either by day or months.

Vehicles used for transporting and delivery must fit regulations and appear sanitary. Once a shipment of fresh produce has been received, it should be stored immediately to preserve freshness. Group and ship produce for maximum shelf life. Prior to loading vehicle, make sure to clean and sanitize it. The humidity and temperature must

be monitored inside trucks and shipping containers. Shipping containers must be moved carefully to prevent bruising and an onset of deterioration. Most delivery trucks must fit state regulations. Buyers notice transportation standards and cleanliness so it's important to perform maintenance for every delivery.

Shipping contracts include arrangements of delivery, varying costs differences according to distances, and rely on companies using guides for produce optimal temperatures. Smaller companies and independent grocers depend on receiving next day delivery call into warehouse to order products. Large transportation companies do not usually work well with smaller, local companies or wholesalers because product volume is low. It is more realistic if MFA works with organization like Emergency Food Network (EFN) to use their trucks until MFA is able to lease or own transportation.

Marketing Plan

Minnesota Food Association can act as an intermediary between the growers and the buyers. There are several different models that are worth consideration. The advantages and disadvantages of each model are listed below:

Wholesaler

A wholesaler buys from various places and takes physical possession of the products. When buying directly from growers, products usually have been graded and sorted. Then orders are assembled that have been set up in advance. Most wholesalers sell these products to distributors but some will also sale to retailers. In the beginning stages of a start-up business, Minnesota Food Association should form an alliance with a local wholesaler.

Advantages:

- Wholesalers can distribute product in large region
- Low barriers to entry

Disadvantages:

- Low margins because not adding value
- Growers must meet volume criteria set up by wholesaler
- Many hands will touch products

Distributors

Distributors purchase produce from growers and sell directly to retailers. The process begins in the fields until when produce can be moved to a distribution center where it's graded, processed, packed, and shipped. Each stage of the process is outlined below:

- Before growing season, the distributor obtains information about the quantities and varieties of produce wanted by the buyer.
- Then the distributor sets up contracts and works with growers to develop growing practices.
- The grower must have liability insurance and follow food safety regulations.

- The distributor shares the market information with the growers. The growers must be familiar with buyer's needs, preferences, and purchasing patterns to develop plan for growing varieties of produce. There are several important characteristics assessed by the buyer: quality, quantity, and price.
- Distributors ask farmers to contact them to give produce availability list weekly.
- The growers never pick their products until these are ready to be sold because the products soon begin deteriorating.
- The growers sort and select produce before it makes it to the distributor.
- The distributors also grade, clean, and sort produce.
- Distributors choose to package produce according to buyers' preference, which preserves freshness and increases appeal.

Advantages:

- A distribution center has broad market access being able to fill orders for a variety of customers
- Distributors can purchase produce from informal grower networks when there are supply shortages
- For retail customers, there is a need to provide a reliable supply for a prolonged length of time
- The distributor can create value-added products, which are products that are wrapped, packaged, bagged, or minimally processed including sliced, cut, or canned
- Providing produce to small number of larger buyers can be very efficient

Disadvantages:

- Growers receive lower price than in a direct sale
- Growers have limited ability to control prices
- Freshness and flavor are lost because of time between picking and delivery
- Requires large infrastructure
- Filling orders for many producers providing small quantities requires more time and resources

Broker

A broker locates produce, represents produce to a variety of buyers, and takes percentage of sales. High volumes of produce are moved to various buyers without the broker ever taking physical possession of produce. Interviews provided insight into brokerage relationships and companies using brokers.

- Brokers handle a tone of produce, have many suppliers, know about crops and availability, and have market information.
- Most brokers buy produce from packers and shippers like Dole, Sunkist or Driscoll. These companies contract various hundreds of different growers for produce. The produce is brought to their facilities to be packaged and shipped. These are sold to brokers or distributors.

- Brokers usually provide transportation and delivery services or contract with fleet services. Full truckloads are assembled together with many different vendors produce.
- Most brokers want contracts when high volumes of product are ordered.
- Companies mainly use brokers for produce procurement because it cuts down on time and cost of research.
- Buyers using brokers usually have ordering guides and list of ingredient specifications.
- Some companies only order value added products such as pre-sliced tomatoes because of cost and time required to perform these processes.
- Companies are very careful selecting suppliers for high volumes of produce due to price sensitivity.
- The size of brokerage firms vary according to the types of produce they handle and the volume of produce they move.

Advantages:

- Growers are freed up from the responsibility of sales and marketing
- Requires limited infrastructure

Disadvantages:

- Growers need to find own financing
- Standard boxes and pallets required
- High quality standards

Collaborative

The strategy for member farmers was to collaborate on purchasing, processing, and marketing. If managed effectively, the collaborative will receive economies of scales. Membership structure is usually ge based and considered an investment.

Advantages:

- Funds from sales are channeled toward building capital to purchase infrastructure
- Instead of individual insurance plans for growers, a collaborative only requires single plan
- Membership decreases competition between farmers
- Increase bargaining power
- Maintain a steady flow of products
- Diversity of membership
- Greater community commitment
- Flexibility in choosing produce to grow

Disadvantages:

- Lack of a common mission
- Lack of commitment
- Barriers to entry and exit
- Costs of group decision making

Recommendations and Conclusion

The most favorable outlook for Minnesota Food Association goals and missions is to work as an intermediary between the grower and end-user. MFA must choose a model, which would best benefit growers: distributor, wholesaler, collaborative, or a broker. MFA's intimate relationship established with their growers brings direct knowledge about the produce they buy. MFA is able to purchase their produce with the guarantee of sustainable farming practices, which they use to promote their services to buyers.

In their relationship with their growers, MFA must form production plans and prepare for entry into the marketplace by grocers, restaurants, school lunch programs, and food advocacy organizations. Growers must follow standardization conditions set up by the USDA to meet the needs of these various buyers. There may be changes in the types of produce grown and harvest practices monitored by MFA. Fluctuating produce prices can be overcome through agreements and contracts with growers and buyers. MFA should offer discounts for the first months of buyer seller relationship and can continue those discounts for bulk ordering.

The different operation structures above list the requirements that need to be filled between growers and buyers in a given market. MFA should begin at small to medium operations selling produce widely used and demanded in large volume. Significant costs can be cut acting through specific operation plans that require fewer infrastructures and product specifications. Partnerships with other entities such as shipping companies and wholesalers can lower the costs to building infrastructure through sharing or pooling resources until MFA can become self-sustainable. The expected losses faced by MFA in the beginning are between 5%-10%. Profits are attained when income exceeds expenses.

Business management will require certain number of staff to coordinate activity and have expertise. Alba began with one marketing manager to assess market barriers and entries, which took two years working on project alone. Alba has since hired a marketing assistant. However, the high demand for local produce will promise the formation of buyer-seller relationships. MFA should ask for letters of intent from possible buyers. A single representative should work with buyers to build relationships. Lastly, The staff of MFA must also be able to work well together to run an efficient organization.

Appendices

Case Studies

Superior Grown

Superior Grown offers an ecological label to producers in Northeast Minnesota and Northwestern Wisconsin. The label guarantees sustainable farming practices have been used during growing seasons. This includes “crop rotation, use of cover crops, turning under green manure to increase soil tilth, using compost and manure to increase soil fertility, maintaining permanent waterways to prevent erosion,” and other practices that can be obtained at their website. Genetically modified organisms (GMOs) are not allowed to carry the label. The label can also be extended to livestock.

ALBA

Agriculture and land-Based Training Association (ALBA), an exemplary distribution start-up in California, started off small. They began selling to local grocers and restaurants, soon establishing a physical distribution center. Over past three years, their distribution network has grown and supplies organic produce to wholesalers and large institutions such as the University of California and various schools and hospitals. ALBA was fortunate to have a staff member that had an extensive background in marketing. This staff member came to ALBA with many previous business relationships and had learned the ins and outs of produce management through many years of experience. ALBA works directly with the farming community to extend the growing season by encouraging planting of new varieties of produce. Correspondingly, ALBA and growers formally agree upon varieties and quantities for future seasons. ALBA would ask farmers to contact them to give produce availability list weekly and it depends because it works both ways. Work one-on-one with farmers, and at beginning, produce marketing manager tell whom she wanted. However, their product is highly variable according to season. It works better when farmers inform them ahead and if had contracts with farmers. Most agreements between grower and distributor are verbal. ALBA plans to start implementing contracts to sell many palettes between April and June to create consistency. ALBA has developed delivery network within 250-300 miles of distribution center. Investing in several trucks have been the biggest part of their production. Staff committed to a lot of delivery themselves but now they have hired a deliverer. Because of time constraints, it's hard for buyers to come to the distribution center. However, there are buyers that go to the center because ALBA has a forklift. This tool has allowed ALBA to deliver products to customers. ALBA also requires growers to bring products to the center. ALBA continues to grow and gain market shares through dedicated buyers.

CAFF

Community Alliance of Family Farmers (CAFF) set up a distribution system for farmers by pooling together resources and forming a collaborative. Membership for farmers was set up in 1993 and a directory of farmers was established in 1995. The business side of the collaborative is set up as a for-profit organization. It was organized into a ‘growers collaborative’ instead of a ‘cooperative’ because farmers attached stigma to the term. The major programs of CAFF have evolved in farm to school programs.

CAFF had established a core group of farmers, which built demand for farmer's fresh products. Schools dealt directly with farmers. This relationship between the farmers and schools needed to be managed. CAFF set up a distribution system for these customers to provide a formalized and efficient structure of ordering and delivering. Their distribution center coordinates seasonal forecasting and production, manages ordering and supply, billing, and delivery of produce. Produce availability and quantities are listed on the collaborative website weekly during growing season. CAFF also has offered resource services for other organizations in California for solving distribution problems. The future prospects of the CAFF collaborative would to set up a shareholder system.

EFN

Emergency Food Network (EFN) in Minnesota also owns transportation rather than renting or leasing. The organization has three trucks 3 trucks to deliver within an extensive area. EFN delivers donated food products and fresh produce to food shelves around the state. Growers deliver products to EFN's central warehouse, which are then packed and distributed with food orders. Large volumes of produce can reach up to 36,000 bunches that come in cases, loaded into pallets, and brought into coolers. When cases are loaded onto pallets, these are shrink wrapped and ready to deliver within one to two days to agencies. Orders are placed weekly by agencies and refrigerated trucks deliver products. Their trucks can hold eleven pallets. Produce can fit 700-800 pounds on pallets. EFN also has a forklift with electrical jacks. At the dock, produce is loaded and the drivers use the jacks when they unload products at delivery site. A lot of agencies have a lift gate instead of loading docks, so drivers bring food shelf products to side doors.